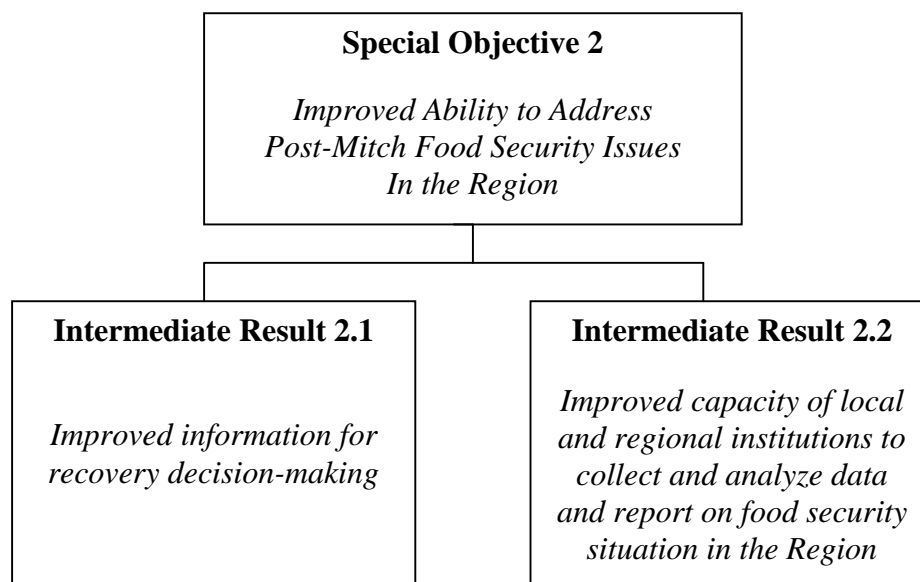


SECTION II: DETAILED ACTIVITIES BY COUNTRY

The United States Department of Agriculture provided enhanced information and analytical tools to key food security officials in Central America during the Hurricane Mitch Recovery Program. Activities carried out under this program were developed in response to the situation assessment and problem analysis conducted at the onset of the USDA Hurricane Mitch Recovery Program. The Special Objective 2 response consisted of two Intermediate Results as reflected in the following framework:



Three USDA organizations contributed collectively to the achievement of SpO2. They are:

- The National Agricultural Statistics Service (NASS)
- The Production Estimates and Crop Assessment Division (PECAD) of the Foreign Agricultural Service (FAS)
- The Economic Research Service (ERS)

The three agencies worked independently but cooperatively to achieve the desired results. The activities implemented by each of the agencies were distinct depending on the specific technical expertise required and the technology, processes and methodologies used. In the relatively short implementation period of the program, the products created and the services rendered by the Department of Agriculture achieved the Intermediate Results and the Strategic Objective.

SpO 2 activities addressed issues that were common among the target countries within the region. For the NASS and PECAD projects, we have disaggregated the

accomplishments, impacts and future considerations by country (Nicaragua and Honduras). The ERS Project activities were regionally focused and are reported here in a separate chapter. Section II is organized as follows:

- A. Country Program Description--Nicaragua
Project 1—NASS Technical Assistance
Project 2—PECAD Technical Assistance
- B. Country Program Description—Honduras
Project 1—NASS Technical Assistance
Project 2—PECAD Technical Assistance
- C. Regional Program Description—ERS Technical Assistance

B. COUNTRY PROGRAM --HONDURAS

Project 1--National Agricultural Statistics Service (NASS) Technical Assistance

Project Summary

The National Agricultural Statistics Service (NASS) technical assistance and training activities in Honduras under SpO 2, ***Improved Ability to Address Post-Mitch Food Security Issues in the Region***, focused on components of both Intermediate Results:

2.1 Improved Information for recovery decision making and

2.2. Improved capacity of institutions to collect and analyze data and report on food security situations in the region.

USDA/NASS expertise under the Hurricane Recovery project was coordinated through the International Programs Office (IPO). Working closely with the SpO2 team leader of the Foreign Agricultural Service (FAS) office of International Cooperation and Development (ICD), the IPO developed a systematic program of technical assistance and training activities for only the final 9 months of the project. Initially, no assistance for Honduras was requested.

The project objective for Honduras was to provide the National Statistical Institute (INE) the technical assistance it needed to carry out the Basic Grains Survey for 2001. The INE was an entirely new organization (formed in January 2001) with a mandate from the Government of Honduras to provide a range of social survey and statistical data collection including agriculture. INE had limited direct experience in conducting surveys of the size and scale of the 2001 Basic Grains survey.

During the 1980's and early 90's, Honduras was the beneficiary of USDA/NASS technical assistance funded through USAID/Honduras. During that period, the Agricultural Statistics Unit, an office within the General Directorate of Statistics and Census (DGEC) was created for the purpose of planning and implementing agricultural surveys, and all of the unit's staff resources and technical products were developed. Although the Agricultural Statistics Unit had functioned for a number of years, at the start of the Hurricane Mitch reconstruction program, no agricultural statistics had been collected in the 1999-2000 crop year. This was due to shifting priorities within the Secretariat of Agriculture (SAG) and their decision to create the INE and charge it with taking over the responsibility for conducting agricultural surveys.

By the time the Government of Honduras created INE in January 2001, most of the previous institutional capacity to conduct agricultural surveys was gone. The INE staff

had some specific expertise, for example, data processing, computer programming, and survey design skills. However, with the exception of the INE director, staff members had little understanding of the overall survey process, including how to link the diverse technical elements of an agricultural survey into a comprehensive statistical system. This conclusion was confirmed in an assessment conducted by NASS in April, 2001 during which interviews were held with INE staff, the former Agricultural Statistics Unit at SAG, the Central Bank and USAID/Honduras. Accordingly, USDA/NASS made a commitment to provide INE with technical assistance to carry out the basic grains survey and to support INE throughout the entire survey process.

Specific Activities

Sampling Activities

NASS undertook a comprehensive review of INE's available technical resources, including the fixed segment area frame, the list sampling frame, survey questionnaires, reporting formats, data processing/computer programming skills and other items.

The improvement of sampling methodologies was designated as a key technical assistance activity under the Food Security objective for NASS in Honduras. Statistical sampling seeks to establish valid samples in order to quantify trends or relationships within a group. As such, it is a fundamental competence needed for improving the reliability of agricultural information and statistics. The economics of sampling--allowing for relatively small samples to be surveyed to represent the larger population—provides even resource poor countries like Honduras a cost effective mechanism for gathering and analyzing important agricultural statistical information. Improvement of sampling methodologies focused on Area Frame and List Frame methodologies.

1. List Sampling

NASS also provided intensive technical assistance in the construction of a list sampling frame. The list sampling frame can be useful for surveys in which the commodity to be estimated is highly concentrated within a comparatively small area or where there are relatively few large farms. Estimates of these commodities demand a higher degree of precision than samples from the area frame can provide. Therefore, samples for these types of surveys are drawn from a list frame consisting of the names and addresses of producers, including those of larger scale grouped by size and type of unit. Another application of list sampling would be to collect information for large producers who contribute significant quantities to total production.

Past procedures in INE were producing inefficient individual commodity lists. To increase efficiency and provide for a stronger sample, there was a clear need to create farm lists with control information by commodity.

2. Point Sampling

NASS team members provided a detailed explanation of the point sampling methods to INE staff. This method could be implemented in a selected Honduran Departments (or provinces). In such an application, the selection of point samples would use the current area frame stratification maps. The collection of information from the point sample would then be compared with the current area frame segment data from the same Department. (NASS determined mathematically that a 1200 sample of points would be required to collect data which could provide an adequate equivalency in order to make the comparison with existing segments. The determination of the number of points for this comparison study is different than the selection procedure would be if we did not want to compare with existing methodology.) The INE staff was not able to run the comparison study before the end of NASS technical assistance.

Questionnaire Quality

Existing questionnaires were determined to be difficult to use, leading to many non-sampling errors and the collection of unnecessary information.

Key Accomplishments/Practical Impacts

INE conducted the 2001 Basic Grains survey and released the survey results on time with an acceptable degree of understanding and analysis of the data on the part of INE staff.

INE's general understanding of sampling, and their editing and analysis of data has improved. With food security such an important issue for Honduras, information regarding the status of agricultural production, especially grains, is important in order to plan for commercial imports to make up deficits.

Additional Measures To Protect The Investment/Recurring Costs

INE Organizational Strengthening

INE has the basic capacity to continue collecting information on basic grains and the agricultural sector but is entirely overextended in the scope of its current survey activities. Its staff is too small to accomplish all of the activities under its mandate and the overload of responsibilities will result in questionable quality of its products and/or general inconsistency of available information. In addition, the information will not be timely which is an important factor in conducting quality survey work. To begin addressing this situation, USDA/FASS offers three recommendations:

- A detailed analysis of INE's organizational and operational structure should be conducted by an independent and objective entity. Particular attention should be paid to conducting a needs assessment to determine the actual data needs for Honduran users.
- Budgeting and adequate staffing are needed to sustain the increased survey workload.
- Political interference in the operational affairs of INE should be minimized. This is a serious institutional constraint for the institution.

Additional Technical Assistance

Staff training needs are considerable in order to improve knowledge, skills and abilities related to agricultural statistical issues. A comprehensive package of training and technical assistance would enable staff to understand statistics as a system and to focus on practical application of statistical principles.

Cost estimates for a three year program of NASS technical assistance including salary, travel costs and overhead plus material and equipment:

- 34 weeks of technical assistance per year
- 3 one-week study tours for 5 INE staff in Washington, DC

Total estimated cost -- \$650,000

Project 2 Production Estimates & Crop Assessment Division (PECAD) Technical Assistance

Project Summary

Under the Food Security Objective of the Hurricane Reconstruction program, the Production Estimates and Crop Assessment Division (PECAD) of the Foreign Agricultural Service (FAS), was responsible for producing and disseminating timely and objective agricultural production assessments for Honduras. The assessments provided in particular early warning of unusual crop conditions and/or changes in production regional outlook.

With large agricultural-based subsistence farming populations, Honduras is vulnerable to a host of natural disasters including, drought, floods, and earthquakes, which effect its ability to produce adequate food supplies. PECAD technical assistance was designed to improve information available to national level decision-makers and help them devise

better action plans for mitigating the effects of events that impact on agricultural production

Through the use of “convergence of evidence” methodology, PECAD analysts collected information from a variety of sources thus minimizing the risk of depending on only one source of data and information in making crop assessments. Data sources used by PECAD included USDA overseas post reports, satellite imagery analysis, weather data, field travel, foreign government official releases, and agency crop estimates.

PECAD provided technical expertise in the analysis of satellite imagery data of the region and dissemination of analysis through monthly crop assessment reports and estimates/ forecasts of crop production levels.

PECAD also created a Hurricane Mitch web site, which greatly facilitated the availability of all analyses to the region’s Ministries of Agriculture, USAID, Washington staff, USAID/ Honduras mission, and USDA agencies.

Specific Activities

Crop Production Assessments

Using satellite imagery, PECAD provided to USAID and other agencies the first before and after images of the damage to crop production areas and critical watersheds in Honduras. PECAD used this same data for assessing current crop conditions and compiled satellite imagery atlases for hurricane-affected areas. PECAD analysts also made crop assessment visits to Honduras to gather ground-based data on current growing conditions.

Briefings

PECAD conducted monthly crop condition briefings through September 2001. These updates utilized information gathered from a variety of sources, including satellite imagery, to provide an up-to-date analysis of the crop conditions in the region. The agency also conducted additional specialized briefings upon request.

Website/Information Dissemination

PECAD operationalized the Hurricane Mitch website. The function of the website is to provide an updated source of SpO2 and Mitch recovery activity information to clients and interested users in the region and the world. The automated weather information section of the website was deployed in mid-March 2001. Weather information is a key variable in determining crop yields and local food insecurity events. This INTERNET site allows for quick information delivery to the decision-makers (USAID, SAG, and

others.) The website is automatically updated every 10 days with 210 charts of important sub-regions and 8 regional maps, and provides information on:

- actual precipitation and cumulative precipitation;
- average, minimum and maximum temperatures;
- surface and subsurface soil moisture.

(Website:

http://www.fas.usda.gov/pecad/highlights/Mitch/economic_research_service.htm)

Technical Assistance/Training

USDA technical specialists provided training in the use of Global Positioning Systems (GPS) technology to faculty and students of the Honduran National Agricultural School (ENA) in Catacamas, Honduras (Department of Olancho). Technical assistance also included the transfer of a satellite imagery field atlas and three GPS receivers and related peripherals to ENA. As ENA staff and students transmitted their reports on growing conditions in the major production areas in Olancho on a regular basis to PECAD staff, they effectively became a part of the PECAD data network.

Key Accomplishments/Practical Impacts

Drought Assessment 2001

During the primary growing seasons of 2000/01, particularly 2001, PECAD analysis highlighted the low rainfall conditions in parts of Honduras. This analysis was communicated through the monthly crop “condition assessment briefings” and the Internet site. The field analysis, conducted in country, confirmed the effects on production in specific geographic sectors and their implication for total production during the crop cycle for 2000/01.

The severity of rainfall shortage on crop conditions in the summer of 2001 was dramatic. Drought conditions affected large areas in both Honduras and Nicaragua, but conditions were particularly severe in Honduras. In late July 2001, the Honduran Minister of Agriculture asked PECAD to conduct a scientific assessment of the drought. In response, a PECAD team joined efforts with SAG staff members to conduct a field-based analysis of the drought effect on crop conditions in five Honduran departments. Using the same GPS technology transferred to ENA, teams of technicians went into the drought affected regions and established geographic points of reference in selected areas.

The joint PECAD/SAG assessment effort produced reliable and timely information about the magnitude of the drought for Honduran decision-makers. As a result, SAG, in coordination

with the World Food Programme and others, was able to develop an action plan to assist farmers in the most effected areas.

GPS Training of ENA Faculty and Students

USDA/PECAD trained 8 faculty members and 45 students in the use of GPS technology to correlate field notes to geo-specific locations. This training has resulted in the establishment of a permanent data exchange linkage with PECAD whereby ENA provides crop-scouting reports (including yield estimations from random points across the Guayape Valley) to PECAD via email. The strengthening of in-country capacity at ENA provides a multiplier affect in that ENA will continue to train students and other institutions in the use of GPS technology. One of those institutions is the National Statistical Institute (INE). INE is responsible for surveying crop statistics nationally and will utilize the GPS training to geo-locate sample segments to do surveys and accurately apply expansion factors. ENA personnel have committed to train INE staff in the use of GPS technology.

The ENA training also included the transfer of a satellite imagery field atlas and three GPS receivers and related peripherals to the host institution

Website

Deployment of the automated weather information section of the website was accomplished in mid-March 2001. This INTERNET site allows for quick information delivery to the decision-makers (USAID, SAG and others.) The weather information was designed to be generated automatically and can be sustainable after the end of the USAID-funded Mitch project with minimal maintenance costs.

Host Counterpart Institutional Strengthening

The data exchange networks developed with ENA are important institutional linkages initiated by PECAD and will continue beyond the program end date. Source data is collected by both entities and sent via email to PECAD in Washington. The analysis of this data is integrated into the automated weather information section of the PECAD website for Central America and is available to all decision-makers in the region.

ENA has gained the institutional capability to conduct field-based GPS data collection and can provide training in GPS technology to other interested institutions.

Additional Measures To Protect The Investment/Recurring Costs

Investments in the region were made primarily through training and technical assistance. Continued contact between PECAD and the host country institutions will contribute to the on-going functioning of the data exchange network.

Enhancement of Geographic Information Systems (GIS) capabilities in Honduras will contribute to better data collection and analysis capabilities which, in turn, will improve agricultural production assessments and overall decision making.

Cost implications for GIS enhancement:

- Purchase of GPS units @ \$160 per unit (approximately 5 units needed)
- Purchase of desktop or laptop computer/s @ \$1200 per unit for downloading and uploading and processing data
- Internet connection @ \$60 per month
- GIS software costs @ \$1,200